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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Implement the Commission's Procurement Incentive Framework and to Examine the Integration of Greenhouse Gas Emissions Standards into Procurement Policies.	Rulemaking 06-04-009 (Filed April 13, 2006)

<u>THE CENTER FOR ENERGY AND ECONOMIC DEVELOPMENT'S COMMENTS ON DRAFT INTERIM DECISION ON PHASE 1 ISSUES: GREENHOUSE GAS EMISSIONS PERFORMANCE STANDARD</u>

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Pursuant to the Article 14 of the Commission's Rules of Practice and Procedure, and the notice accompanying the Proposed Interim Decision on Phase 1 Issues: Greenhouse Gas Emissions Performance Standard (the "Proposed Decision"), the Center for Energy and Economic Development ("CEED") respectfully submits its Comments regarding the Proposed Decision. In addition to and in support of these Comments, CEED refers to and incorporates by reference its previously-filed Comments, including its Pre-Workshop Comments filed June 12, 2006, its Opening Brief on Jurisdictional and Other Legal Issues filed June 30, 2006, its Reply Brief on Jurisdictional and Other Legal Issues filed July 11, 2006, its Comments on the Draft Workshop Report ("Draft Report") and the documents submitted therewith filed September 8, 2006, and its Comments on the Final Workshop Report ("Final Report") filed October 18, 2006.

I.
INTRODUCTION

CEED is a non-profit organization formed by the nation's coal-producing companies, railroads, a number of electric utilities, equipment manufacturers, and related organizations for the purpose of educating the public, including public-sector decision-makers, about the benefits of affordable, reliable, and environmentally compatible coal-fueled electricity. CEED has several member-companies who are doing business in both California and in neighboring western states. CEED has participated in previous California Public Utilities Commission ("CPUC") Workshops regarding CPUC's proposed implementation of a Greenhouse Gas

(“GHG”) emissions cap, participated in the June 21-23 Workshop in this proceeding, and has participated in California Energy Commission (“CEC”) public hearings on climate and clean coal technology issues, as well as CEC’s proceedings to implement S.B. 1368. CEED also submitted detailed comments to Governor Schwarzenegger’s Climate Action Team (“CAT”).

As discussed below, and as CEED previously noted with respect to the Draft and Final Reports, CEED believes that the Proposed Decision (1) sets an unrealistically low GHG emissions standard (even for Combined Cycle Gas Turbine (“CCGT”)[1] generation), (2) eliminates cost containment measures to protect ratepayers, (3) increases California’s already high dependence on natural gas to supply its power needs, (4) prohibits a large portion of California’s existing out-of-state power suppliers from competing in baseload California power markets, and (5) eliminates or creates disincentives for continued development of cleaner coal-fueled electric generation. Moreover, the Proposed Decision will result in violations provisions of the U.S. Constitution, including the Commerce Clause, and conflict with federal policies.

The Commission should not adopt the Proposed Decision without significant revision, or at a minimum, additional analysis of the proposal’s costs.

II.
ARGUMENT

A. THE PROPOSED DECISION FAILS TO MEET SEVERAL STATED DESIGN GOALS OF THE PHASE I EPS RULEMAKING.

Following the Workshop on the Phase I EPS design held June 21-23, 2006, the Commission developed a list of consensus design goals for the EPS process. The list of design goals for the proposed EPS include (1) minimizing costs to ratepayers; (2) addressing reliability concerns; and (3) encouraging (as well as not hindering) advanced technology development. *See* Final Report at 43; *see also* Draft Report at 68. S.B. 1368, at § 8341(d)(6), also mandates that the Commission, “in consultation with the Independent System Operator shall consider the effects of the standard on system reliability and overall costs to electricity customers.” The Proposed Decision devotes three paragraphs of its 223 pages to “effects on reliability and overall

[1] CCGT technology is alternatively referred to as Natural Gas Combined Cycle (“NGCC”) in these comments and in the incorporated EVA Technical Evaluation.

costs to electric customers," but makes no mention of actual costs of the EPS. Instead, the Proposed Decision only restates the conclusion that the EPS will protect electricity customers from reliability problems and high compliance costs in the future, and states that "no showing has been made in this proceeding that new, EPS-compliant procurements will not be available at reasonable costs to ratepayers." Proposed Decision at 170-72. The Proposed Decision does not contain any analysis or discussion of the reliability concerns raised by homogenizing California's energy supply to rely upon natural gas.[2] As CEED previously commented with respect to the Final Report, the Proposed Decision attempts to address reliability concerns by allowing reliability exemptions on a case-by-case basis, but misses the much larger policy issue created by eliminating most new resource options and forcing the state to become increasingly dependent upon natural gas. *CEED Opening Comments on Final Workshop Report,* October 18, 2006, p. 4 (citing EVA Technical Evaluation at 3-4).

i. The Proposed Decision Eliminates Cost Containment Measures that Would Minimize the Costs of the EPS to California Ratepayers.

One of the design goals recognized by the Commission is to minimize costs of the EPS to California ratepayers. The California General Assembly set out the same goal in S.B. 1368. S.B. 1368 § (1)(d) ("Energy Action Plan II establishes a policy that the state will rely on clean and efficient fossil fuel fired generation and will 'encourage the development of cost-effective, highly-efficient, and environmentally-sound supply resources to provide reliability and consistency with the state's energy priorities.'"); *id*. at § (1)(g) ("It is vital . . . to reduce California's exposure to costs associated with future federal regulation of these emissions."); *id*. at § 8341(e)(7) ("In adopting and implementing the greenhouse gases emission performance standard, the Energy Commission, in consultation with the Independent System Operator, shall consider the effects of the standard on system reliability and overall costs to electricity customers.")

[2] The EVA Technical Report was prepared in response to the Draft Workshop Report, and is equally applicable to the Final Report and Proposed Decision.

By eliminating all cost containment provisions from the EPS, and in failing to address the costs to ratepayers, the Proposed Decision neglects its obligation to protect ratepayers from the costs of the EPS. The California legislature and governor have expressed interest in controlling compliance costs to minimize impacts on the state economy in both S.B. 1368 and AB 32. S.B. 1368 specifically requires the Energy Commission to consider the ratepayer costs in its development and implementation of a GHG emission standard. *See* §§ 8341(d)(6), 8341(e)(7)). A.B. 32 also requires that the state agencies establish a GHG emissions cap "in an efficient and cost-effective manner." A.B. 32, § 38561(a). To provide the flexibility needed to be "efficient and cost effective," A.B. 32 authorizes use of "alternative compliance mechanisms" that allow offsets to provide for an equivalent reduction in greenhouse gases. AB 32 also permits the state to establish a GHG cap and trade system. The Proposed Decision should follow the governor's and legislature's lead on cost containment measures and permit offsets and portfolio averaging. The proposal should also establish carbon price caps to protect the California ratepayer. *CEED Opening Comments on Final Workshop Report,* October 18, 2006, p. 5 (citing_EVA Technical Evaluation at 4-5).

The Proposed Decision rejects offsets and portfolio averaging, stating that such mechanisms would "compromise the very purpose articulated by this Commission and the Legislature for establishing an EPS in the first place," and that the EPS "serves a fundamentally different purpose [to prevent backsliding as California transitions to a statewide GHG emissions cap], reflecting different policy objectives, than programs to reduce GHG emissions through a portfolio-wide cap, cap-and-trade programs or programs that permit LSEs to create or purchase offsets to meet an emissions cap or performance standard." Proposed Decision at 22. Further, the Commission rejects the principle of an offset program because such a program "cannot be designed and implemented within the timeframe contemplated for an interim EPS," or by February 1, 2007. *Id*. at 23.

Offsets and portfolio averaging should be a part of any program to reduce GHG emissions, even as an interim or transitional EPS, and can be used to efficiently and cost-effectively meet emissions reduction goals. CEED previously commented on the cost benefits of the mechanisms that the Proposed Decision rejects. *See CEED Opening Comments on Final*

Workshop Report, October 18, 2006, p. 5-6. Portfolio averaging allows companies to meet the EPS, while allowing them the flexibility to offer a lower-priced product to the ratepayers.

As an additional cost containment provision, the Proposed Decision should include an exemption for utilities with small service territories in California. As S.B. 1368 provides, "[a]n electrical corporation that provides electric service to 75,000 or fewer retail end-use customers in California may file with the commission a proposal for alternative compliance with this section . . . ." S.B. 1368, § 8341(d)(9); Proposed Decision at 77. Omitting this in the Proposed Decision reaches the impermissible result of rendering the cited provision of § 8341(d)(9) of no effect. *See Weber v. County of Santa Barbara*, 15 Cal. 2d 82, 86 (1940) (no provision of a statute should be rendered useless or deprived of meaning).

Several methods exist to build cost controls into the proposed EPS, but the Proposed Decision rejects these methods. Incorporating such methods allows the EPS to comply with the stated design goals – and the statutory mandates – while minimizing the costs of the EPS to California ratepayers.

ii. The Displacement of Coal-Fueled Electric Generation Will Harm California's Economy, and Will Disproportionately Impact Lower-Income California Families.

The higher electricity rates resulting from the Proposed Decision standard will have the same effect as a regressive tax. Higher energy prices disproportionately affect families living on lower and fixed incomes.[3] Thus, everyone in society has a stake in keeping energy costs affordable. More money spent on electricity means less money is available for housing, food, education, and other necessities that improve quality of life. Therefore, it is an unwise and unjust policy to raise energy prices so that consumers use less.

[3] In 2005, energy costs accounted for only five percent of the gross incomes of families with household incomes of greater than $50,000. In the same year, energy costs consumed 48 percent of the budgets of U.S. families with incomes of less than $10,000. *See* EVA Technical Evaluation at 16-18; Balanced Energy Report (Attachment 7 to CEED's September 8, 2006 Comments on the Draft Workshop Report) at 1-6.

1. Rose & Wei Research: The Displacement of Coal-Fueled Electric Generation Will Negatively Impact California's Economic Output, Household Income, and Jobs.

Adam Z. Rose, Ph.D., and Dan Wei[4] conducted research to estimate the economic impacts of displacing coal-fueled electricity generation. *See* Rose & Wei Paper (Attachment 5 to CEED's September 8, 2006 Comments on the Draft Workshop Report); *see also* Summary of same (Attachment 4 to CEED's September 8, 2006 Comments on the Draft Workshop Report); Supporting Data (Attachment 6 to CEED's September 8, 2006 Comments on the Draft Workshop Report); and Balanced Energy Report (Attachment 7 to CEED's September 8, 2006 Comments on the Draft Workshop Report). Dr. Rose and Mr. Wei calculated that U.S. coal-fueled electric generation will contribute $1.05 trillion in gross economic output, $362 billion in annual household incomes, and 6.8 million jobs in 2015. *See* Rose & Wei Paper at 4. Based upon these calculations, Dr. Rose and Mr. Wei concluded that displacement of 33% of coal-fueled electric generation (nationwide) would result in a loss of $166 billion in gross economic output, a $64 billion reduction in annual household incomes, and 1.2 million job losses. *Id*. at 5. But the report further calculated the net economic losses of such displacement of coal-fueled electric generation in California alone. *See* Summary of Rose & Wei Paper at 8-9 (Attachment 4). A 33% displacement of coal-fueled electric generation would result in a $10 billion net loss in economic output, $4.1 billion in lost household income, and 65,300 lost jobs in California. A 66% displacement would cost California $22.9 billion in lost economic output, $9.3 billion in lost household income, and 148,300 lost jobs. These losses illustrate the interdependence of major segments of the economy, and show that the Proposed Decision's EPS cannot be judged in terms of expected environmental effects alone. The additional effects of the proposed EPS must be assessed by the Commission before implementing an EPS.

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[4] Dr. Rose was Professor of Energy, Environmental, and Regional Economics at the Pennsylvania State University. Mr. Wei is a Graduate Assistant at the same university.

2. *Brenner Research: Higher-Cost Energy Results in Reduced Household Income, Increased Unemployment, and Premature Death*

M. Harvey Brenner, Ph.D.,[5] conducted research regarding the relationship between energy, the environment, and health. *See* Brenner Article (Attachment 3 to CEED's September 8, 2006 Comments on the Draft Workshop Report); *see also* Summary of same (Attachment 2 to CEED's September 8, 2006 Comments on the Draft Workshop Report). After applying his econometric model of public health to a hypothetical scenario in which higher-cost fuels displace U.S. coal to generate electricity (like the Proposed Decision will do for California), Dr. Brenner discovered that such displacement will result in staggering adverse impacts, including reduced household income, increased unemployment, and premature deaths. *See* Brenner Article at 30 (Table 1). Such premature deaths are directly attributable to "decreased household income and increased unemployment associated with a shift to higher cost energy supply options, absent any direct mitigation programs that effectively prevented or offset these effects." *Id*. at 32. By increasing the costs of goods and services such as electricity, and, in doing so, reducing disposable income, government regulation can inadvertently harm individuals' socioeconomic status and contribute to poor health and premature death. *Id*. at 28.

Dr. Brenner's caution to public policy makers applies directly to the Commission here: "Governmental programs intended to protect public health and the environment should take into account potential income and employment effects of required compliance measures." *Id*. In short,

> [t]he economic growth that continuously improves human life expectancy requires access to affordable energy. In this fundamental sense, any policy change that reduces growth or raises the level of unemployment should therefore be defined and addressed as a public health issue requiring an economic policy response that limits or offsets these results.

[5] Dr. Brenner is Professor of Health and Policy Management at the Johns Hopkins University Bloomberg School of Public Health and Senior Professor of Epidemiology at the Berlin University of Technology.

Id. at 33. Dr. Brenner's research cautions the Commission to recognize the costs and potential unintended consequences that the proposed EPS will have on employment, income, and public health.

iii. The Proposed Decision Increases California's Dependence on Natural Gas to Supply Its Power Needs.

The Proposed Decision's 1,000 lb CO_2/MWh emission performance standard precludes <u>all</u> power plants that use oil, coal, petroleum coke, and most waste fuels from long-term contracts to supply baseload power to California investor-owned utilities. Any generation derived from higher carbon content fuels, such as petroleum coke, coal, waste fuels, and oil, face "impossible technology hurdles since such facilities must offset their higher fuel carbon content without any energy efficiency advantage (often a disadvantage)" when judged based upon the proposed CCGT standard. EVA Technical Evaluation at 6-7. <u>No</u> coal or other carbon chain fuel (including natural gas, in some instances) can meet the proposed CO_2 performance limit of 1,000 lbs CO_2/MWh. *Id*. at 7.

iv. The Proposed Decision Results in Greater Vulnerability to Natural Gas Market Reliability Risks.

Power plants that use oil, clean coal, petroleum coke, and most waste fuels are precluded from entering into long-term contracts to supply baseload power to California investor-owned utilities under the Proposed Decision. By limiting baseload generation competition in this way, the Proposed Decision leaves California with fewer and higher-cost baseload generation options. If coal, oil, petroleum coke, waste fuel, older CCGT, and unspecified generation options are excluded from long-term baseload power contracts, utilities must depend upon additional new CCGT plants, nuclear units, and renewable resources to meet California's growing energy demand. If California is reluctant to support nuclear power, it is left with little diversity in its energy portfolio – only natural gas and renewable energy options.

The North American Electric Reliability Council ("NERC") 2006 Long-Term Reliability Assessment plainly recognizes this flaw in California's resource adequacy and diversity assessment, stating that:

> California is highly reliant on gas-fired generation and has very little alternate fuel capability for these plants. California is also highly reliant on natural gas imports so gas supply is of concern to area energy planners, including the California Energy Commission. The Commission's September 21, 2005 Energy Action Plan II Implementation Roadmap For Energy Policies identifies eight key actions to address natural gas supply, demand, and infrastructure.

NERC 2006 Long-Term Reliability Assessment, October 16, 2006, at 120, *available at* ftp://www.nerc.com/pub/sys/all_updl/docs/pubs/LTRA2006.pdf (citing the Energy Action Plan II report, *available at* http://www.energy.ca.gov/energy_action_plan/2005-09-21_EAP2_FINAL.PDF).

A portfolio of limited energy sources is inherently a high-risk portfolio, and the Proposed Decision creates unjustifiably high supply and market risks for California ratepayers. *Id*. Given the volatility of natural gas prices, as well as the higher cost of natural gas, the proposed EPS places California ratepayers in an inherently risky position. *See* Balanced Energy Report (Attachment 7 to CEED's September 8, 2006 Comments on the Draft Workshop Report) at 3-4 (Charts 1 and 2 – electricity fuel cost indices by energy source).

NERC's 2006 Long-Term Reliability Assessment Report analyzes the adequacy of electricity supply and transmission reliability in North America through 2015, and the report calls for actions to improve system reliability. NERC 2006 Long-Term Reliability Assessment at 6-10. NERC expects demand for electricity to increase over the next ten years by nineteen percent in the U.S., but expects confirmed power capacity to increase by only six percent. *Id*. at 11-14. Accordingly, capacity margins are projected to drop below minimum target levels in the western U.S. *Id*. In Western Electricity Coordinating Council ("WECC") territory specifically, "[d]ue to a slight decrease in existing generating capacity and a significant decrease in reported generation additions, capacity margins . . . are reported as declining throughout the ten-year assessment period." *Id*. at 19. NERC predicts summer electricity supply shortages relative to study planning margins as early as 2009 assuming no resource additions beyond those presently under active construction. *Id*. Such drops alert NERC to the increased potential for shortages in electricity due to fuel disruptions, particularly for natural gas: "The supply and delivery of gas to electric generators can be disrupted when electric generation demands for gas coincide with high gas demands for other customers. In some cases, even firm gas contracts for electric generation can be curtailed in favor of residential heating needs during extreme cold weather." *Id*. at 9. By shifting California's energy portfolio to natural gas – the reallocation of resources that the Proposed Decision will cause – California places itself in a position of increased system reliability risk, and instead of increasing system capacity as NERC recommends, is taking action which will serve to reduce available system capacity.

Further, heavy reliance upon renewable energy options is currently a high-risk and unrealistic option for California:

> First, it is unlikely that renewable energy can meet this large demand without a significant price impacts. Renewable power has been and continues to be far more expensive than conventional generation options.
>
> The California Public Utility Commission (CPUC) report entitled *Achieving a 33% Renewable Energy Target* (November 2005) failed to study the resource availability and cost impact of the combination of California expanded renewable demand with other western state demand triggered by their renewable portfolio standards. Four western states (Arizona, Colorado, New Mexico, Nevada) have also adopted renewable portfolio requirements totaling 20 TWh by 2020 that plan to draw upon these same renewable resources. Other western states are also considering adopting similar standards that would push demand above 140 TWh. How much renewable resources can be developed and at what cost?
>
> CPUC's analysis assumed that most of this increased renewable energy demand would be supplied by wind projects. To meet this demand, the CPUC report <u>assumes</u> that the wind capacity factors will increase from 37 percent today to 43 percent by 2017. However, according to EIA Form 906 data, only one California wind project and eight in the entire nation report such a high capacity factor. In fact, the average 2003 California capacity factor was less than 23%, so the CPUC projection may vastly over-estimate both current and future potential wind power contribution

> and significantly underestimate the wind production cost. A GHG performance standard would make wind a larger player in the energy market, a role wind technology does not appear ready to play.
>
> Secondly, wind can also contribute to system reliability issues. In a recent article in *Power Markets Week*, the California ISO provided data for the July 2006 energy crunch in California. During this critical period, wind power operated at less than 5 percent of its rated capacity at peak demand periods. This makes wind a highly unreliable source during critical high peak periods when power is needed the most.

EVA Technical Evaluation at 15-16.

v. The Proposed Decision Hinders Advanced Clean Coal Technology Development.

A stated design goal for the proposed EPS has been the encouragement of advanced technology development, *see* Draft Report at 68, but this stated goal is removed from the Final Report, and is omitted from the Proposed Decision, in apparent contradiction with a stated goal of S.B. 1368 and the Energy Action Plan II. S.B. 1368 § 1(d) ("Energy Action Plan II establishes a policy that the state will . . . 'encourage the development of cost-effective, highly-efficient, and environmentally-sound supply resources . . . .'"). The Proposed Decision moves even farther away from the mandate of S.B. 1368 and Energy Action Plan II by completely eliminating the staff recommendation of a case-by-case research and development facility exemption. *See* Final Report at 45; Draft Report at 36. The Proposed Decision recognizes that no less than six parties in this proceeding (Carson Hydrogen Power Project, San Francisco Community Power, PG&E, PacifiCorp, SDG&E, and SoCalGas) support the recommended research and development exemption because it will "assist in the introduction and adoption of new technologies that can greatly reduce GHG emissions, thereby furthering the Commission's and the State's energy policies." Proposed Decision at 78. CEED agrees with PacifiCorp and SCE that without a research and development exemption, the EPS will deter development and implementation of Integrated Gasification Combined Cycle ("IGCC") technology and will shift investment to increased reliance upon natural gas, rather than new technologies. *Id*.

Instead of allowing a research and development exemption, the Proposed Decision accounts for geological formation injection sequestration by stating that "we will determine EPS compliance for such powerplants based on reasonably projected net emissions over the life of the facility." Proposed Decision at 80. Suppliers must file an application requesting a Commission finding of EPS-compliance. *Id*. The Proposed Decision's review process contributes toward uncertainty, and the administratively burdensome review process will more likely discourage and hinder advanced technology development.

As CEED stated in its previous comments, investment in advanced technology is less likely when an extensive review process must be conducted before it is known whether the technology will meet the EPS. CPUC's goal of encouraging advanced technology would be better achieved if some predefined R&D projects such as carbon capture ready IGCC projects and ultra-supercritical pulverized coal units that provide potentially low CO_2 options were automatically exempted from the EPS and not subject to an expensive or drawn out approval process. Projects such as the Xcel Pawnee (PRB fired IGCC plant with carbon capture) and AEP Hempstead (PRB fired ultra-supercritical plant) projects should be encouraged. A case-by-case exemption discourages investment in advanced technologies due to the uncertainty of the review process. If certain advanced technologies were pre-approved by rule, the Commission would encourage investment in advanced technologies.

As Governor Schwarzenegger appropriately put it in a speech announcing a hydrogen power plant fueled by hydrogen generated from petroleum coke:

> I want to thank you for choosing California. This will be the first plant of its kind in the whole country and I think it is a perfect fit for our state. With our Strategic Growth Plan, a commitment to Air Quality, *and innovative projects* like this hydrogen plant, I know we can have clear skies, improve our quality of life and build a stronger, more vibrant economy for California.

Governor Schwarzenegger, Address at Carson, California Project Announcement (February 10, 2006) (quoted in Press Release, BP Global, *BP and Edison Mission Group Plan Major Hydrogen Power Project for California* (February 10, 2006) (*available at* http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7014858)) (emphasis added).

B. THE COMMISSION'S SETTING OF A LOAD-BASED GHG EMISSIONS PERFORMANCE STANDARD VIOLATES THE COMMERCE CLAUSE OF THE U.S. CONSTITUTION

The Proposed Decision effectively precludes coal, oil, petroleum coke, waste fuel, and even older natural gas fueled generation from competition in California power markets. The proposal plainly "blocks the flow" of such generation at the California border, and in doing so, violates the Commerce Clause of the U.S. Constitution.

i. Carbon Capture and Sequestration Technology Is Not Yet Sufficiently Developed to Allow Fossil-Fueled Generation to Meet the Proposed GHG Emissions Standard.

Currently, no cost-effective technology exists to allow CO_2 capture from flue gas streams and to store or sell the captured product. On the contrary, current CO_2 capture and sequestration technology options are both highly energy intensive and too expensive to be immediately commercially implemented in order to satisfy the proposed EPS.

> There are only four powerplants in the U.S. that capture a small portion of CO_2 from their flue gas streams. . . . These facilities were designed to treat less than 15 percent of their flue gas, and these facilities consume large quantities of energy in the process. Based upon their current performance, EVA calculates that to treat 100 percent of the flue gas would require roughly 75 percent of the plant's total output energy. However, to capture only the amount of CO_2 needed to meet a gas combined cycle emission rate (per MWh unit output basis) would consume roughly 63 percent of the plant output energy. Cost to capture and compress CO_2 would increase the production cost of coal-based electricity using conventional PC and CFB technologies by 184 percent. To treat the coal-fired generation currently coming-in to California alone would cost more than $5 billion/year. This would be far greater than the undocumented and arbitrary Climate Action Team (CAT) $117 million estimate. Such costs would make the higher carbon containing fuel alternatives far more costly than nuclear power and gas combined cycle alternatives that do not incur the carbon penalty.

EVA Technical Evaluation at 8, 10 (footnotes omitted).

Some utilities have proposed the development of "carbon capture ready" IGCC facilities[6]. *See id*. at 10. The U.S. Department of Energy ("DOE") hopes to improve the energy efficiency and performance of carbon capture and sequestration technologies for coal-based alternatives, such as those technologies proposed in DOE's FutureGen project. *See id*. at 11. But, while such technologies are promising, their CO_2 removal abilities are currently modest, and research remains before such technologies are commercially feasible. *Id*. Because no technology currently exists to allow fossil-fueled generation to meet the proposed GHG emissions standard, the Proposed Decision blocks such generation from entering California.

ii. The Proposed Decision Will Preclude Out-of-State Suppliers from Competing in California's Markets.

California is currently the largest power importing state in the nation.[7] With its mix of mostly higher cost generating resources, few in-state power plants (mostly nuclear and co-generator facilities) operate at or above the Proposed Decision's 60 percent baseload capacity factor. EVA Technical Evaluation at 11. California has turned to much cheaper power imports to supply a large portion of its baseload power needs.[8] Because the 60 percent capacity factor exempts the majority of California's in-state generators from the EPS, the reality of California's energy market dictates that the Proposed Decision will primarily preclude out-of-state suppliers from competing in California markets.

> [I]mport power suppliers would need to demonstrate compliance with the proposed EPS to be eligible to compete for future baseload California power contracts. The proposed eligibility criterion would exclude a large portion of the existing import power suppliers from being able to compete for future California baseload power contracts. First, it would prohibit all coal-fired powerplants because of coal's much higher carbon content and lower energy efficiency (than combined cycle). Second, it would

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6 For example, Xcel Energy's Pawnee facility. Such facilities seek to remove CO_2 from syngas before combustion for a far lower price than the flue gas capture approaches currently available.

7 In 2005, the state reported retail sales of 254 TWh versus in-state generation of only 196 GWh (Source: DOE Electric Power Monthly March 2006.

8 California ISO Summer 2006 forecast (May 2006).

> also exclude all natural gas and oil fired steam generating units (higher carbon content, lower efficiency) from competition. Such exclusions would significantly inhibit all future inter-state power trading . . . .

EVA Technical Evaluation at 12.

iii. The Proposed Decision Violates the Commerce Clause of the U.S. Constitution.

The U.S. Supreme Court has stated that "where simple economic protectionism is effected by state legislation, a virtually *per se* rule of invalidity has been erected. The clearest example of such legislation is a law that overtly blocks the flow of interstate commerce at a State's borders." *City of Philadelphia v. New Jersey*, 437 U.S. 617, 624 (1978) (internal citations omitted) (state may not ban importation of solid waste while allowing disposal of in-state waste). The U.S. Supreme Court finds it equally clear that electric power raises interstate commerce concerns: "it is difficult to conceive of a more basic element of interstate commerce than electric energy, a product used in virtually every home and commercial or manufacturing facility."[9] "A state cannot block imports from other states, nor exports from within its boundaries, without offending the Constitution."[10] CPUC's EPS will necessarily limit the amount of coal-fueled electricity imported into California, and accordingly, the EPS discriminates against interstate commerce.[11] As Decision 06-02-032, Opinion on Procurement Incentives Framework, dated Feb. 16, 2006 (the "Order") itself concedes, "non-California generators . . . must adjust their behavior" to comply with CPUC's GHG cap.[12]

In *Pike v. Bruce Church*, 397 U.S. 137 (1970), the Supreme Court articulated the balancing test used to determine whether state laws and regulations are valid under the Commerce Clause:

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[9] *Federal Energy Regulatory Comm'n v. Mississippi*, 456 U.S. 742, 757 (1982).

[10] *City of Philadelphia v. New Jersey*, *supra*, 437 U.S. at 620.

[11] Yvonne Gross, "Kyoto, Congress, or Bust: The Constitutional Invalidity of State CO2 Cap-and-Trade Programs," manuscript at 19, Thomas Jefferson Law Review, Vol. 28, No. 205, 2005 Available at SSRN: http://ssrn.com/abstract=883687.

[12] Order at 23.

> Where the statute regulates evenhandedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits…. If a legitimate local purpose is found, then the question becomes one of degree. And the extent of the burden that will be tolerated will of course depend on the nature of the local interest involved, and on whether it could be promoted as well with a lesser impact on interstate activities.

Id. at 142 (internal citations omitted).

1. The Performance Standard Has a Discriminatory Effect on Interstate Commerce.

Various U.S. Supreme Court decisions have struck down regulatory enactments that required particular economic activity to be performed within the jurisdiction.[13] The discrimination in each of these cases was based on geographic origin. In each case, the regulating jurisdiction (state, county, or city) drew a line around itself and treated those inside the line more favorably than those outside the line. These arrangements are protectionist, either in purpose or practical effect, and amount to virtually *per se* discrimination.

Under the proposed EPS, the ability of out-of-state coal-fueled generation plants to export their electricity into California will be severely limited, if not foreclosed altogether. The limitation of CO_2 emissions described by CPUC effectively precludes in-state utilities and other load-serving entities from the purchase and importation of coal-fueled generation. The EPS, and the cap to follow, discriminate against coal-fueled energy in interstate commerce, and accordingly, offend the Commerce Clause of the U.S. Constitution.

[13] *See*, *e.g.*, *Dean Milk Co. v. Madison*, 340 U.S. 349 (1951) (unconstitutional for city to require milk to be pasteurized within five miles of the city); *Fort Gratiot Sanitary Landfill, Inc. v. Michigan Dept. of Natural Resources*, 504 U.S. 353 (1992) (unconstitutional for county to prevent a landfill owner from accepting for disposal solid waste produced outside of the county); *Minnesota v. Barber*, 136 U.S. 313 (1890) (unconstitutional for state to require meat sold within the state to be examined by state inspector); *Foster- Fountain Packing Co. v. Haydel*, 278 U.S. 1 (1928) (unconstitutional for state to require that shrimp heads and hulls must be removed before shrimp can be removed from the state); *South-Central Timber Development, Inc. v. Wunnicke*, 467 U.S. 82 (1984) (unconstitutional for state to require all timber to be processed within the state prior to export).

In example, in *United States v. Wrightwood Dairy Co.*, 315 U.S. 110 (1942), the Supreme Court held that, because milk produced and sold wholly within a state competes with and impacts the price of milk shipped in from out-of-state, the U.S. Department of Agriculture properly regulates the pricing of milk produced and sold wholly within a state. Like the milk at issue in *Wrightwood Dairy*, electricity generated in other states competes with electricity generated in California. Limiting California's ability to include coal-fueled generation in energy procurement discriminates against the interstate trade of electric generation, and in doing so, depresses the price of electricity in the exporting state by reducing the level of demand it might otherwise satisfy, thereby imposing a burden on out-of-state generators.[14]

Moreover, by closing off the California market, CPUC's announced EPS and GHG cap places heightened financial burdens on the construction of new coal-fueled power plants in neighboring states. The initial capital required to construct a power plant is typically secured with pre-construction contracts for the output of the unit. If California is effectively closed to coal-fueled power due to the EPS, reduced potential market breadth makes securing financing for construction of new coal-fueled power plants in all Western states more difficult. In obtaining financing for new construction, California-based electric generators have a significant competitive advantage over out-of-state, independent developers of coal-fueled generation facilities, and consequently, the CPUC GHG regulatory scheme offends the Commerce Clause.[15]

2. The Performance Standard Has an Extraterritorial Effect on Interstate Commerce

The U.S. Supreme Court has ruled that it is a *per se* violation for one state to regulate conduct in another state. For example, the Supreme Court found in a series of cases that States cannot adopt regulations that tie in-state liquor prices to out-of-state liquor prices.[16] The EPS

[14] Gross, *supra* note 12, manuscript at 20.

[15] *Id*., manuscript at 20-21 (citing Thomas C. Hayes, Bottom-Fishing in the Gas Patch, N.Y. Times, May 19, 1991, at 3 (noting that "without ironclad guarantees for fifteen years or more of supply, lenders have refused to finance the construction of gas-fired power plants for utilities," and likewise, a long-term contract for the output of a power plant is usually required for financing of independent power producers and coal plants)).

[16] *Healy v. Beer Inst*., 491 U.S. 324, 332 (1989); *Brown-Forman Distillers Corp. v. N.Y. State Liquor Auth.*, 476 U.S. 573 (1986).

effectively precludes access to the California market, and its proposed regulations would have a negative effect on out-of-state generators. The Supreme Court has held that a law may have an impermissible extraterritorial scope even when, technically, it applies only to conduct within the state: "The critical inquiry is whether the practical effect of the regulation is to control conduct beyond the boundaries of the State."[17] Here, the Commission's GHG policy cannot avoid having the practical and actual effect of regulating the GHG emissions of out-of-state generators selling into the California market, thus unlawfully controlling commercial conduct beyond the borders of California.

In fact, the mere announcement of CPUC's adoption of a GHG cap has already had just such an extraterritorial effect. As noted in two recent newspaper articles, Sempra Energy has halted (or downsized) the development of its Granite Fox power plant near Gerlach, Nevada. As stated by a Sempra spokesperson, California's new regulations forbidding the importation of coal-generated power is the "biggest reason for changing the plant design."[18]

C. THE COMMISSION'S EFFORTS TO REGULATE THE PRODUCTION OF GHG CONFLICT WITH FEDERAL FOREIGN AND DOMESTIC POLICY REGARDING GLOBAL CLIMATE CHANGE AND WITH FEDERAL REGULATION.

The EPS adopted in the Proposed Decision conflicts with the federal government's foreign policy. When state law or regulation conflicts with federal law, state law is preempted and has no effect.[19] The U.S. Supreme Court has long held that federal foreign policy has a particularly strong preemptive effect on state action.[20] Moreover, a state statute or regulation may not interfere with an action the President "may choose to take in furtherance of a particular

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[17] *Healy*, 491 U.S. 336; *accord Brown-Forman*, 476 U.S. 583.

[18] Susan Voyles, *Sempra Energy Halts Gerlach Project Study*, Reno Gazette-Journal, March 8, 2006, *available at* http://news.rgj.com/apps/pbcs.dll/article?AID=/20060308/NEWS10/603080363/1002; *see also* Shayla Ashmore, *Granite Fox Power Plant May Not Happen*, Lassen County Times, March 14, 2006, *available at* http://www.lassennews.com/News_Story.edi?sid=3184.

[19] *Maryland v. Louisiana*, 451 U.S. 725, 746 (1982).

[20] *American Insurance Ass'n v. Garamendi*, 539 U.S. 396 (2003); *Hines v. Davidowitz*, 312 U.S. 52 (1941).

[foreign policy] option."[21] President Bush has clearly designated a foreign policy for the United States on global climate change.[22] First, the President has established that the United States must work with other nations to achieve a coordinated international response to global climate change. The President has identified "the process used to bring nations together to discuss our joint response to climate change [as] an important one."[23] Second, the President has articulated a federal policy of not mandating unilateral reductions in CO_2 emissions from United States sources because responsibility for committing to and implementing any binding emission controls to address global climate change must be shared by all nations, including developing nations, and Congress has endorsed the President's policy against requiring CO_2 emission reductions only from the United States and other developed countries. Congress has also enacted provisions in appropriations bills barring the Environmental Protection Agency from implementing the Kyoto Protocol.[24] The EPA announced that imposing unilateral GHG emission limitations would weaken the President's efforts to persuade key developing countries to reduce the GHG intensity of their economies.[25]

With respect to the issue of global warming, it is not within the prerogative of the Commission to set GHG control policy. Whether or not the Commission or the State of California agrees with the President of the United States, the chief executive of the United States

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[21] *Crosby v. National Foreign Trade Council*, 530 U.S. 363, 377 (2000).

[22] In 1998, the Clinton administration supported the Kyoto Protocol. In doing this, it committed the United States to a seven percent reduction in carbon dioxide and other greenhouse gas emission from 1990 emission levels, to be achieved between the years 2008 and 2012. However, President Clinton's commitment ran into unanimous opposition in the Senate. Norman Vig, "Presidential Leadership and the Environment," in Norman J. Vig and Michael E. Kraft (eds.), Environmental Policy: New Directions for the Twenty-First Century, pp. 114-115. The Senate's position was that the treaty placed an unfairly low burden on developing countries and too high a burden on developed countries. The Senate took the position that developing countries would need to share in the burden of reducing emissions. As a result of the Senate's clear position, the Clinton administration never submitted the Protocol for ratification. Three years later in 2001, the Bush administration withdrew the United States' support for the Kyoto Protocol, claiming that the treaty was fatally flawed. In Bush's rationale for his rejection of Kyoto, he stated that to implement the technologies needed to comply with Kyoto would cost the United States roughly 4.9 million jobs. Kelly Wallace, "Bush to Unveil Alternative Global Warming Plan," p. 1.

[23] Transcript, President Bush Discusses Global Climate Change (June 11, 2001), *available at* http://www.whitehouse.gov/news/releases/2001/06/20010611-2.html.

[24] See, *e.g.*, Pub. L. No. 106-377, Appendix A, 114 Stat. at 1441A-41 (Oct. 27, 2000) (for fiscal year 2001).

[25] 68 Fed. Reg. 52,922, 52,931 (September 8, 2003).

has expressed the national policy regarding GHG issues within the context of the national interest in negotiating international treaties designed to elicit the cooperation of other countries.[26] The Commission's attempt to implement a statewide GHG control policy at this time is an intrusion upon and is at odds with the President's Foreign Policy Powers. The U.S. District Court for the Eastern District of California so held in a recent opinion, stating that a state program that requires mandatory reductions in greenhouse gas emissions conflicts with United States foreign policy addressing climate change.[27]

The Proposed Decision dismisses this controlling law, stating that "[i]t is unclear how California, which is not proposing to sign any international agreement here, could be undermining such a [U.S. foreign] policy." Proposed Decision at 151. But the Proposed Decision's rationale is flawed because it ignores the mandate that a state statute or regulation may not interfere with an action the President "may choose to take in furtherance of a particular [foreign policy] option."[28] The Proposed Decision undermines the President's policy choices because the United States is no longer represented by "one voice" as the Constitution requires. Actions based upon the EPS, such as Governor Schwarzenegger's agreement with the United Kingdom, harms the President's ability to bargain with other nations, particularly, as the Proposed Decision dismisses, to require developing countries to participate. *See Garamendi*, 539 U.S. at 424 ("quite simply, if the [state] law is enforceable the President has less to offer and less economic and diplomatic leverage as a consequence.") (quoting *Crosby*, 530 U.S. at 377); Proposed Decision at 152. The Proposed Decision also criticizes the authorities CEED cites (a letter and statements from the President and S. Res. 98, 105th Cong. (1997)). Proposed Decision at 151. However, the U.S. District Court for the Eastern District of California recently held that "[t]he Supreme Court cases do not suggest that the absence of a statute or an executive agreement is fatal to a foreign policy preemption claim. In fact, the Court's analysis suggests

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[26] *See* Letter from President Bush to Senators Hagel, Helms, Craig, and Roberts, *available at*: http://www.whitehouse.gov/news/releases/2001/03/20010314.html.

[27] *Central Valley Chrysler-Jeep, Inc. v. Witherspoon*, 456 F.Supp.2d 1160, 1175-83 (E.D. Cal. 2006).

[28] *Crosby,* 530 U.S. at 377.

that such a claim is permissible."[29] The court continued, "so long as the President is empowered to act to benefit United States foreign policy interests, whether through express or implied congressional authorization or through his independent authority, a state statute that excessively interferes with an action 'he may choose to take' in furtherance of that interest may be preempted."[30]

Moreover, the Proposed Decision conflicts with federal domestic policy regarding climate change. Congress's approach has consistently been to provide incentives for technology development; to authorize research, study, and other non-regulatory programs; and to support the Executive Branch in working with other nations to achieve global emissions reductions. Congress has consistently rejected mandatory emissions reductions when enacting legislation addressing global climate change, and has instead opted to fund research, new technology, and global approaches to address climate change.[31]

Finally, the Proposed Decision purports to impose conditions and regulations on interstate power purchases, thereby conflicting with the Federal Power Act, and the exclusive jurisdiction of the Federal Energy Regulatory Commission in this area. The Federal Power Act provides FERC with exclusive jurisdiction over wholesale sales and transmission of electric energy interstate commerce. The Proposed Decision concludes that the EPS does not conflict with the Federal Power Act because, even though California electric utilities are still subject to PURPA's mandatory QF purchase obligation, *see* FERC Rulemaking, Docket No. RM06-10-000, Order No. 688, S.B. 1368 simply limits utilities from entering into long-term contracts rather than prohibiting contracts altogether. Proposed Decision at 81-82. The Commission's view is that "there is no provision [of PURPA] that requires that QFs be allowed to enter into

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[29] *Central Valley Chrysler-Jeep*, 456 F.Supp.2d at 1179.

[30] *Id*.

[31] *See, e.g.,* Global Climate Protection Act of 1987, 15 U.S.C. § 2901, *et seq.* (the Act does not authorize or require the adoption of any regulatory or control measures); Energy Policy Act of 1992 (stating in legislative history that "more dramatic and possibly higher cost actions" should be examined or implemented "only in the context of concerted international action." H.R. Rep. No. 102-474, pt. I, at 152 (1992)); Energy Policy Act of 2005 (rejecting a mandatory cap-and-trade program, and instead opting to promote climate change research, technology, and sharing of such technologies with developing countries).

long-term contracts," *id*. at 83, and that because "[u]tilities will simply be limited from entering into new, or renewal, long-term contracts with baseload QFs that do not meet the EPS, . . . electric utilities should be fully capable of complying with both federal and state law and regulation. Id. at 83-84. Even assuming, for the purpose of argument only, that the Proposed Decision's conclusion is technically correct, the Proposed Decision overlooks the implied conflict resulting from the barrier to entry of the wholesale market forced by the EPS. The Federal Power Act and FERC are meant to ease such barriers to participation in the wholesale market, and the EPS impliedly conflicts with this federal interest. The Commission risks the possibility that the policies it implements now could conflict with any national policies, foreign and domestic, that may be implemented in the future.

III. CONCLUSION

The Commission should not adopt the Proposed Decision without significant revision, or at a minimum, additional analysis of the costs of the proposal. In its current form, the Proposed Decision (1) sets an unrealistically low GHG emissions standard, (2) eliminates cost containment measures to protect ratepayers, (3) increases California's already high dependence on natural gas to supply its power needs, (4) prohibits a large portion of California's existing out-of-state power suppliers from competing in baseload California power markets, and (5) eliminates or creates disincentives for continued development of cleaner coal-fueled electric generation. In doing so, the proposal contained in the Proposed Decision violates the Commerce Clause of the U.S. Constitution, and conflicts with federal policy regarding climate change.

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing **THE CENTER FOR ENERGY AND ECONOMIC DEVELOPMENT'S COMMENTS ON DRAFT INTERIM DECISION ON PHASE 1 ISSUES: GREENHOUSE GAS EMISSIONS PERFORMANCE STANDARD** in accordance with the requirements of the Commission Rules of Practice and Procedure by causing a copy to be electronically filed with the CPUC Docket Office, causing electronic service of same on all members of the current service list in this proceeding, R.06-04-009, and by delivering copies by hand delivery to Commissioner Peevey and ALJ Gottstein.

Dated: January 2, 2007

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